



MegaFi™ Pro Fidelity 2X PCR MasterMix

Cat. No. G887

Store at -20°C.

Product Description

MegaFi™ Pro Fidelity 2X PCR MasterMix sets a new benchmark for specific, sensitive, robust, and high-fidelity PCR performance. It is uniquely formulated in a buffer that includes gel loading dye. This advanced polymerase is paired with a monoclonal antibody that inhibits 5' → 3' polymerase activity and 3' → 5' exonuclease activity at room temperature, allowing for highly specific Hot Start reactions.

The mix demonstrates exceptional sensitivity, capable of amplifying even the most challenging templates—outperforming leading competitors. Moreover, MegaFi™ Pro offers ultra-high fidelity and one of the lowest error rates available—over 2,000X lower than Taq polymerase (refer to our website for details). This makes it ideal for PCR applications requiring maximum accuracy, such as Next-Generation Sequencing, molecular cloning, and diagnostics.

Product Component	Quantity	Part No.
MegaFi™ Pro Fidelity 2X PCR MasterMix ¹	800 rxn (10.0 ml)	G887

¹ Buffer contains final concentration of 2 mM Mg²⁺.

Protocol

1. Thoroughly thaw and mix all components before use. Assemble reactions on ice.

Component	Volume
MegaFi™ Pro Fidelity 2X PCR MasterMix	12.5 µl
Forward Primer (10 µM)	1 µl
Reverse Primer (10 µM)	1 µl
Template DNA	Variable (100 ng genomic DNA)
Nuclease-free H ₂ O	Up to 25 µl

2. Gently mix all reaction components, briefly centrifuge, and transfer the tube to a thermal cycler. Use thermocycling conditions for standard PCR (1 kb template):

Step	Temperature	Time
Initial Denaturation	95°C	5 min
Annealing/Extension (25 – 35 Cycles)	95°C 50-70°C 72°C	15 sec 15 sec 20-30 sec/kb ²
Final Extension	72°C	5 min

² 20-30 seconds/kb, increase as necessary.

- After PCR, maintain the reaction at 4°C or store at -20°C until use.
- Analyze the amplification products by agarose gel electrophoresis.
- Visualize by ethidium bromide or SafeView™ (Cat No. **G108**) staining.

General Notes

- MegaFi™ Pro is strategically engineered for fast, versatile, high-fidelity PCR.
- Contains a monoclonal antibody for highly specific Hot Start PCR.
- Suitable for long-range PCR:
 - up to 18 kb from less difficult targets
 - up to 15 kb from genomic DNA
- For optimal results, use high-quality, purified DNA templates.